

A Case of Hydrosalpinx—Removal of the Right Tube and Ovary Without Rupture of the Sac

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AT the meeting of the Cleveland Medical Society, held on Feb. 8th, I exhibited specimens taken from a case of double pyosalpinx, in which both tubes and ovaries had been removed without rupture of either sac. Tonight I have a specimen of a case of right hydrosalpinx, which seems to me to be of interest for two reasons, (1) on account of the size of the mass, and (2) because removal was again possible without rupture of the sac.

I do not mean to say that cases of hydrosalpinx of this size are by any means rare in literature, but nowadays, certainly, the specimens shown are, as a rule, much smaller. The same may be said of ovarian cysts, and I am inclined to believe that the explanation for this lies in the fact that we now operate earlier, and the tumors, therefore, have not time to reach the size which they would naturally attain with a long expectant treatment.

The clinical history of the case is briefly as follows:

A. McG., single woman, aged 23, was admitted to Charity Hospital in March, 1895, complaining of a sharp shooting pain in the lower zone of the abdomen, referred more especially to the right side. The family history has no bearing upon the case. Up to the time of the present trouble the general health of the patient has always been excellent. The menstrual history is as follows:

The catamenia appeared when the patient was thirteen years of age. The flow was somewhat scanty, lasting from two to three days, and was

generally accompanied by severe pain. No history pointing to the occurrence of any specific affection could be obtained. Patient had never been pregnant.

The onset of the present trouble dates back three years. About this time the patient began to have sharp shooting pains in the lower abdomen, on the right side. The pain was most marked at the time of the monthly period, but was also severe for three or four days before the flow came on. At times the pain would leave the right side and seem to center rather over the middle portion of the lower abdomen. In the summer of 1894 the patient was in bed for thirteen days on account of pain in the lower portion of the abdomen. At this time, she thinks, she had a good deal of fever. Since the onset the pain had often been so severe that the patient could not walk, but for the four months previous to admission the suffering at the menstrual periods had been so intense that she was confined to her bed at these times. Except when suffering acutely the patient had a good appetite, and no symptoms pointing to disease of the urinary tract had been complained of. The bowels, however, had been constipated.

On admission the general condition of the patient was good, and there were no signs of any disorder of the other organs of the body. Upon examination of the pelvic organs the following note was recorded:

"The vaginal outlet is slightly relaxed. The *cervix uteri* is in the apex of the vagina. The uterus is inclined forwards. It is enlarged but movable, except on the right side. On the right side a fluctuating tumor apparently about the size of a small coconut can be palpated. It is adherent to the pelvic floor."

The presence of a tumor-mass having been determined, it was decided to proceed to an abdominal section. I accordingly operated at Charity Hospital on March 21st, being assisted by Drs. Becker, Wheatley, Brokaw and my nurse Miss Heriot.

OPERATION. A median incision 12 cm. long was made through thick abdominal walls. The peritoneal cavity having been opened the mass was found bound down to the pelvic floor by moderately dense adhesions. These having been separated and the tumor having been delivered the pedicle was transfixed and cut through. No rupture of the sac occurred. It was thought

best to irrigate the peritoneal cavity with sterilized salt solution at a temperature of 112°F . This was accordingly done and the cavity having been sponged dry the incision was closed by means of deep silkworm-gut and superficial silk sutures. No drainage was employed. The usual dressings were then applied and the patient was put to bed. The abdominal sutures were removed on the eighth day after the operation. The wound healed by first in-



1—SPECIMEN OF CASE OF HYDROSALPINX

2—SPECIMEN FROM CASE OF ADHERENT TUBES AND OVARIES

tention and the patient seemed to be making an uninterrupted recovery. On the fourteenth day, however, she began to complain of slight pain in the lower part of the abdomen which gradually increased. Vomiting and other signs of intestinal obstruction having appeared, I decided upon reopening the wound. I found the small intestines somewhat distended, and two coils

adherent for a distance of nine centimeters, the adhesions being sufficient to give rise to a partial obstruction. The pedicle was raised and was found to be perfectly healthy. The adhesions when separated bled freely; the hemorrhage was checked by sutures and by means of applications of hot sterile salt-solution. The patient never rallied and died a few hours later. No autopsy was permitted. Although it is just possible that death may have been due to obstruction, I am inclined to believe that this was one of those cases of late infection which often pass unrecognized.

The macroscopic appearance of the specimen is as follows:—

The mass consists of the right Fallopian tube and ovary. The tube is enlarged, is spherical in form, and measures 27 cm. at the point of its greatest circumference. The uterine portion of the tube for a distance of 6 cm. is normal in size. The tube is distended with a transparent fluid. The ovary is spread out on the upper surface of the tumor covering an area of 6 x 6 cm. The upper half of the ovary is free but it is considerably thickened. The posterior surface of the tumor corresponding to the direction of the tube shows a striated arrangement of the latter. Many blood vessels can also be seen in this portion. The whole mass weighs 422 grams. A portion of the upper surface having been burned with the blade of a knife and having been thus rendered sterile, a puncture was made with a platinum needle and glycerol-agar tubes were inoculated with the contents of the mass. Cover slip preparations were also made. No bacteria were demonstrable by either method. The fluid was then withdrawn and a physiologic examination was made of it by Prof. Stewart and Mr. T. Sollmann, whom I have to thank for the following report:—

Physical properties:—

Color: Yellowish red, almost transparent.

Odor: None.

Reaction: Distinctly alkaline.

Specific gravity: 1.0315.

Quantity: 361 cc.

Does not coagulate spontaneously.

Qualitative examination:—

The spectroscope shows oxyhemoglobin bands.

Mineral constituents:—

Chlorids	}	Quite abundant.
Carbonates		
Sulphates	}	Traces.
Phosphates		

Organic constituents:—

No neutralization ppc. (precipitate.)

Heating without acid: solid jelly.

Heating after acidulation: solid, heavy precipitate.

The acidulated liquid becomes turbid when heated to 39°C. and gives an abundant ppc. at 59°C. The non-acidulated liquid commences to coagulate at 83°C., but coagulation is not complete till after acidulation.

A copious ppc. is obtained on saturation with $MgSO_4$, (globulin). The filtrate shows a precipitate on heating (albumin). Metalbumin albumoses and peptones are absent.

The absence of metalbumin is a point of difference between this liquid and the contents of some ovarian cysts.

Quantitative determination:—

Total solids: 9.2334 grm. in 100 cm.

Insoluble ash: 0.2142 “ “ “

Soluble ash: 0.6588 “ “ “

Total ash: 0.8730 “ “ “

Total coagulable proteids: 8.2975 grm. in 100 cc.

Serum-globulin: 3.8033 “ “ “

Serum-albumin (by difference): 4.4942 grm. in 100 cc.

Substances which reduce Fehling's Solution, reckoned as glucose: 0.025.

REMARKS:—The liquid is distinguished from ordinary serous transudations by its high specific gravity while both qualitatively and quantitatively it possesses a striking similarity to blood-serum.

The tumor was then preserved for microscopic examination of the tissues which will be made in the near future.

Cases of hydrosalpinx are not curiosities, but on the other hand they are not very common. The present one was a typical example of hydrosalpinx and for the reasons given above I deemed it of sufficient interest to be brought to your notice.

The etiology of such conditions is not well understood, and as yet pathologic study has failed to throw much light upon the subject, although the condition has long been recognized, since we have good illustrations of it in Hooper's book published in 1832 and in that of Boivin and Dugès published in 1833.

The cases of congenital closure of the fimbriated extremity of the tube are generally associated with other congenital defects of the genital canal. Localized peritonitis may cause adhesions and so produce obstruction at the mouth of the tube.

The *fimbriæ* may be inverted into the lumen of the tube and become adherent or the mouth may be covered by a pseudomembrane. Narrowing or obstruction of the lumen of the tube may be brought about by external adhesions which may simply bind down the tube or may cause it to twist upon itself. Such obstructions may be single or multiple.

The secretion of the healthy tube is very slight, but if the lumen be blocked, the secretion, which is generally abnormal, gradually collects behind the point of obstruction and distends the tube.

As a rule a hydrosalpinx takes on the form of a sausage-shaped tumor and is not apt to grow to the size of an ovarian cyst, although Peaslee has reported one case where the sac contained fluid weighing 18 lbs.

Together with the accompanying photograph of the mass removed the specimens from a case of adherent tubes and ovaries are also shown in order to illustrate the relative size of the hydrosalpinx.